Data Limitations and Validation Report

Lockheed Idaho Technologies

SDG 93090304

Argonne National Laboratory - West

Semivolatile Organic Compounds

Three Aqueous Samples

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1.0 INTRODUCTION

The Argonne National Laboratory - West sample set for Case No. 93090304, SDG 93090304 consists of three (3) aqueous samples analyzed for Target Compound List (TCL) semivolatile organic compounds. All analyses were conducted using SW-846 Method 8270 analytical and reporting protocols. The analyses were performed by the Biospherics Laboratory using the protocols outlined in the ANL-West SOW. The data were reported as a Level IV analysis. A Level A review was performed on the samples in this SDG. A total of 192 sample data points were reported in this analytical data set.

The analytical data from these analyses were reviewed by HALLIBURTON NUS Corporation personnel in accordance with ERP Standard Operating Procedure SMO-SOP-12.1.3.

2.0 QUALITY CONTROL SUMMARY

The data were evaluated based on the following parameters:

- Data Completeness
- GC/MS Tuning and Mass Calibration
- Initial and Continuing Calibrations
- * Blank Analyses
- Surrogate Spike Recoveries
- Matrix Spike/Matrix Spike Duplicate Results
- Internal Standards Performance
- System Performance and Detection Limits
- * Compound Identification
- * Compound Quantitation

The asterisk indicates that all quality control criteria were met for this parameter. Problem areas affecting data usability are discussed in Section 4.0 of this report. A Glossary of Data Validation Flags which defines the validation qualifiers applied on a sample-specific basis is presented in Section 6.0.

3.0 DATA COMPLETENESS

The data presented in Case No. 93090304, SDG 93090304 consists of semivolatile organic results for three (3) aqueous samples as follows:

L30416(93090304-16) L30424(93090304-24) L30429(93090304-29)

The data package was incomplete as submitted. The following is a list of forms missing from this data package: Chain of custody forms, initial calibration Form VIs and the corresponding DFTPP tuning Form Vs. Also, presentation and documentation of data package deliverables were extremely poor. The data package does not conform to a Level A deliverable. Notable omissions on the laboratory forms includes: incomplete and incorrect Form Vs, missing surrogate recovery information for sample L30416(93090304-16), omission of raw data(i.e. quantitation reports and chromatograms) for all three environmental samples, no internal standard areas for samples L30416(93090304-16) and L30429(93090304-29), and incorrect internal standard areas reported on the Form VIII for the quality control samples. No contact with the laboratory was required to complete the validation of this package.

4.0 SUMMARY OF DATA USABILITY

It should be noted that a chain of custody form for the samples contained in this SDG was not provided. Therefore, holding times until extraction could not be evaluated.

The laboratory did not provide DFTPP tuning Form Vs corresponding with the initial calibrations performed on 08/27/93 and 09/01/93. Also, the DFTPP tuning Form Vs provided were incorrectly recorded. Based on information contained in the raw data, the data reviewer amended the appropriate forms.

Initial calibration Form VIs from 08/27/93 and 09/01/93 were not contained in this data package. Therefore, Percent Relative Standard Deviations (%RSDs) could not be evaluated.

A continuing calibration Percent Difference %D greater than 50% was reported for 2,4-dinitrophenol. Positive and nondetected results are affected by this noncompliance. A nondetected result for 2,4-dinitrophenol was qualified as estimated, (UJ), in the affected sample.

Continuing calibration %Ds greater than 25% were reported for bis(2-chloroisopropyl)ether, benzoic acid, hexachlorocylcopentadiene, 4-nitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, di-n-butylphthalate, pyrene, 3,3-dichlorobenzidine, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene. Positive results only are affected by these noncompliances. No action was necessary since no positive results were reported for the aforementioned compounds in the affected samples.

Surrogate recovery information for sample L30416(93090304-16) was not provided in the data package. Therefore, this sample could not be evaluated for this parameter.

The blank spike sample L30405 had an incorrect recovery reported for the surrogate 2-fluorophenol. The data reviewer amended the Form II.

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample L30416 yielded high Percent Recoveries (%Rs) for 4-chloro-3-methyphenol, 2,4-dinitrotoluene and pentachlorophenol. Positive results only are affected by these noncompliances. No action was taken since only nondetected results were reported for these compounds in the unspiked sample.

Internal standard areas were not provided for samples L30416(93090304-16) and L30429(93090304-29). Therefore, theses samples were not evaluated for internal standard noncompliances.

It should be noted that laboratory reported the internal standard areas for the quality control samples in this SDG incorrectly. Based on the raw data the data reviewer amended the appropriate forms.

Annotated laboratory Form I data summary reports showing the data and relevant qualifier flags applied are presented in Appendix A of this report. Copies of the unqualified data summary reports as reported by the laboratory are provided in the attached Appendix B. The attached Appendix C includes documentation to support the findings discussed in this report.

TABLE 1[*]

LOCKHEED IDAHO TECHNOLOGIES

Case No. 93090304, SDG 93090304

SEMIVOLATILE ORGANIC COMPOUNDS

Sample No.	Qualifier Flags
L30416(93090304-16)	
L30424(93090304-24)	
L30429(93090304-29)	J[1]

[*] See Section 6.0 Glossary of Data Validation Flags for qualifier flag definitions.

A sample-specific summary of the data validation flags applied is depicted in Table 1, appearing on the previous page. The qualifier flags used as a result of the validation process are defined in Section 6.0 (Glossary of Data Validation Flags) of this report. Details regarding the application of the validation qualifiers are discussed in the remainder of this section.

4.1 Holding Times

Chain of custody forms for the samples contained in this SDG were not provided. Therefore, holding time noncompliances could not be properly evaluated.

4.2 GC/MS Tuning and Mass Calibration

The laboratory did not provide DFTPP tuning Form Vs corresponding with the initial calibrations performed on 08/27/93 and 09/01/93. Also, the DFTPP tuning Form Vs provided from 09/09/93 at 09:16 and 09/09/93 at 09:45 were incorrectly recorded. Based on information contained in the raw data, the data reviewer amended the appropriate forms.

4.3 Calibrations

The laboratory did not provide any initial calibration Form VIs for the samples in this SDG. Therefore, Percent Relative Standard Deviations (%RSDs) could not be evaluated.

The continuing calibration performed on instrument GC/MS B (09/09/93) at 09:42 contained the following %D which failed to meet the 50% quality control criterion:

Compound	%D
2,4-Dinitrophenol	61.2

Affected Samples: L30429(93090304-29)

A nondetected result for 2,4-dinitrophenol was qualified as estimated, (UJ), in the affected sample.

The continuing calibration performed on instrument GC/MS B (09/09/93) at 09:42 contained the following %Ds which failed to meet the 25% quality control criterion:

Compound	%D
Benzoic Acid	30.5
Hexachlorocylopentadiene	44.4
4-Nitrophenol	37.4
4,6-Dinitro-2-methylphenol	42.3
Pentaclorophenol	28.9
Pyrene	33.4
3,3'-Dichlorobenzidine	35.8
Bis(2-ethylhexyl)phthalate	26.6
Di-n-octylphthalate	28.4
Indeno(1,2,3-cd)pyrene	28.6
Dibenzo(a,h)anthracene	30.7
Benzo(g,h,i)perylene	28.0

Affected Samples: L30429(93090304-29)

No actions were necessary for the aforementioned compounds since no positive results were reported, in the affected sample.

The continuing calibration performed on instrument GC/MS 4 (09/09/93) at 10:09 contained the following %Ds which failed to meet the 25% quality control criterion:

Compound	%D
bis(2-chloroisopropyl)ether	29.6
4-Nitrophenol	27.6
Di-n-butylphthalate	30.6
Dibenzo(a,h)anthracene	26.2

Affected Samples: L30416(93090304-16), L30424(930990304-24)

No actions were necessary for the aforementioned compounds since no positive results were reported, in the affected samples.

4.4 Surrogate Recoveries

Surrogate recovery information for sample L30416(93090304-16) was not provided in the data package. Since no raw data was provided for this sample it was impossible for the data reviewer to calculate Percent Recoveries. Therefore, sample L30416(93090304-16) could not be evaluated for this parameter.

The blank spike sample L30405 had an incorrect recovery reported for the surrogate 2-fluorophenol. The data reviewer amended the Form II.

4.5 Matrix Spike/Matrix Spike Duplicate Results

The MS/MSD analyses of sample L30416 yielded high %Rs for 4-chloro-3-methyphenol, 2,4-dinitrotoluene and pentachlorophenol. Positive results only are affected by these noncompliances. No action was taken since only nondetected results were reported for these compounds in the unspiked sample.

4.6 Internal Standards

Internal standard areas were not provided for samples L30416(93090304-16) and L30429(93090304-29). Since no raw data was provided for these samples it was impossible for the data reviewer to determine internal standard areas. Therefore, samples L30416(93090304-16) and L30429(93090304-29) were not evaluated for internal standard noncompliances.

It should be noted that laboratory reported the internal standard areas for the quality control samples in this SDG incorrectly. Based on the raw data the data reviewer amended the appropriate forms.

4.7 Additional Comments

It should be noted that the detection limits on the laboratory Form Is may be incorrect. The detection limits may be low by a factor of two since only 500 ml were extracted instead of the method indicated amount of 1000 ml.

The laboratory did not provide any raw data(i.e. quantiation reports and chromatograms) for the environmental samples contained in this SDG.

5.0 SUMMARY OF LABORATORY PERFORMANCE

The laboratory did not provide chain of custody forms. Form Vs and the corresponding Form VIs. Raw data was not provided for the environmental samples. Several forms were completed incorrectly. A continuing calibration %D greater than 50% was reported for 2,4-dinitrophenol. Numerous compounds had continuing calibration %Ds which exceeded the 25% quality control limit.

6.0 GLOSSARY OF DATA VALIDATION FLAGS

The following data validation flags were applied to the sample data for reasons detailed previously in this report:

J[1] - Accept data, but qualify a nondetected result for 2,4-dinitrophenol as estimated, (UJ), as a result of a continuing calibration %D greater than 50%.

7.0 REFERENCES

The data referenced in this report were validated in accordance with the protocols outlined in ERP Standard Operating Procedure SMO-SOP-12.1.3 as presented in ERP-SOW-37. In addition, details stipulating laboratory procedures as outlined in the ANL-West SOW were referenced.

APPENDIX A

QUALIFIED LABORATORY RESULTS

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L30416

Lab Name: BIOSPHERICS Contract: ARGONNE NAT LAB

Lab Code: 93090304 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 93090304-16

Sample wt/vol: 500 (g/mL) mL Lab File ID: >D1579

Level: (low/med) LOW Date Received: 08/31/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/07/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/09/93

Injection Volume: 2 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH:

AKB 2-23-94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)		NR
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	50	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	50	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	50	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	50	U
		10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. L3040~~2~~

Lab Name: BIOSPHERICS Contract: ARGONNE NAT LAB

Lab Code: 93090304 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 93090304-16

Sample wt/vol: 500 (g/mL) mL Lab File ID: >D1579

Level: (low/med) LOW Date Received: 08/31/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/07/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/09/93

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____

ALB 2-23 AK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	NR	
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

L30429

Lab Name: BIOSPHERICS Contract: ARGONNE NAT LAB

Lab Code: 93090304 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 93030904-2

Sample wt/vol: 500 (g/mL) mL Lab File ID: >CG980

Level: (low/med) LOW Date Received: 08/31/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/07/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/09/93

Injection Volume: 2 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____

AMB 9-26-96

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)		NR
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	50	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	50	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L30429

Lab Name: BIOSPHERICS Contract: ARGONNE NAT LAB

Lab Code: 93090304 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 93090304-29

Sample wt/vol: 500 (g/mL) mL Lab File ID: >CG980

Level: (low/med) LOW Date Received: 08/31/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/07/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/09/93

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____

MD 2-23-96

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	50	UJ
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole		NR
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L30424

Lab Name: Biospherics Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 93090364-24

Sample wt/vol: 500 (g/mL) ML Lab File ID: ^DJ582

Level: (low/med) _____ Date Received: 09-07-93

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 09-09-93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 930909

Injection Volume: 2 (uL) Dilution Factor: _____

GPC Cleanup: (Y/N) N pH: ____

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

ARB 3.6.96 Q

CAS NO.	COMPOUND		
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol		NR
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	50	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	50	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	50	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	50	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	50	U
		10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Biospherics Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 93D90304-29

Sample wt/vol: _____ (g/mL) ML Lab File ID: ADC582

Level: (low/med) _____ Date Received: _____

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 09-07-93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09-09-93

Injection Volume: 2 (uL) Dilution Factor: _____

GPC Cleanup: (Y/N) N pH: ____

AKB 3-5-96

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole		NR
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine